

WE CLAIM:

1 1. A method for automatically rebalancing a portfolio of an investor,
2 comprising the steps of:

3 establishing an algorithm for rebalancing a portfolio of an investor
4 among a plurality of predetermined classes of assets which vary in degree of risk and
5 return;

6 at each of a plurality of intervals in time, applying the algorithm to
7 determine a target percentage allocation of the investor's portfolio among the classes
8 of assets; and

9 selectively shifting assets in the portfolio so as to more closely
10 conform to the target percentage allocation.

1 2. The method of claim 1, wherein the investor is a natural person and the
2 algorithm uses the age of the investor in determining the target percentage allocation.

1 3. The method of Claim 1, and further comprising the steps of:
2 formulating a recommended reallocation of the investor's portfolio to
3 better conform the investor portfolio to a predetermined model portfolio according to
4 the algorithm;

5 presenting the recommended reallocation to the investor so as to enable
6 the investor to modify the recommended reallocation; and

7 thereafter reallocating assets of the investor's portfolio in accordance
8 with the recommended reallocation as modified by any investor modifications.

1 4. The method of Claim 1, wherein the investor is a participant in a
2 retirement plan, the method further including the steps of:

3 applying said algorithm by an automated independent financial
4 advisor;

5 formulating, by the independent financial advisor, a reallocation of
6 assets in the investor portfolio; and

7 executing trades in investment vehicles by an automated manager of
8 plan assets which is independent of the independent financial advisor, which plan
9 assets include the investor's portfolio, responsive to instructions from the independent
10 financial advisor and as a function of said step of formulating.

1 5. The method of Claim 4, and further including the steps of:
2 presenting, to the participant by the independent financial advisor, a
3 recommended reallocation of assets in the investor portfolio;

4 affording to the investor the opportunity to modify the recommended
5 reallocation; and

6 as incorporating any modification on part of the investor, instructing
7 the manager to reallocate assets of the investor portfolio.

1 6. The method of Claim 1, and further comprising the steps of:
2 at a first time, automatically choosing for the investor a first one of a
3 plurality of predetermined portfolio types, each portfolio type having a predetermined
4 asset allocation and varying from the other predetermined portfolio types in degree of
5 risk, the model portfolio types being sequentially ranked by degree of risk;

6 at a second time following the first time, applying the algorithm to see
7 if the investor should be switched to another model portfolio type; and

8 if the algorithm shows that that other model portfolio type would be a
9 better fit to the needs of the investor than the currently assigned portfolio type,
10 switching the investor to that other portfolio type.

1 7. The method of Claim 6, wherein said step of switching switches the
2 investor only to an adjacent one of the portfolio types.

1 8. The method of Claim 7, wherein said step of switching switches the
2 investor to the adjacent one of the portfolio types having less risk.

1 9. The method of Claim 7, and further comprising the steps of:
2 establishing a predetermined portfolio switching interval; and
3 making no switch to another portfolio type until the switching interval
4 has elapsed since the last choosing of a portfolio type for the investor has occurred.

1 10. The method of Claim 1, and further comprising the steps of:
2 authorizing an entity to shift assets ("allocatable assets") of the
3 investor according to the rebalancing algorithm;
4 receiving data concerning that component of an investor's present
5 financial wealth which may not be reallocated by the entity ("nonallocatable assets");
6 using the received data, attributing proportions of the nonallocatable
7 assets to ones of the asset classes; and

8 allocating the allocatable assets among the asset classes such that the
9 sum of the allocatable assets and the nonallocatable assets conforms as closely as
10 possible to the target percentage allocation.

1 11. A method for automatically rebalancing a portfolio of an investor,
2 comprising the steps of:

3 for a first time, determining a human capital of the investor;

4 dividing the human capital of the investor into at least first and second
5 investment types according to a predetermined formula, the first and second
6 investment types having different degrees of risk;

7 summing a financial worth of the investor and the human capital to
8 derive a total worth of the investor;

9 making a target allocation of the total worth of the investor between
10 the first and second investment types according to a predetermined, stored ratio;

11 for the first time, recommending an allocation of the assets of the
12 financial worth of the investor between the first and second investment types such that
13 the asset allocation of the total worth of the investor meets or most closely approaches
14 the target allocation; and

15 for the first time, using the last said recommendation of allocation of
16 assets to determine how assets in an investment portfolio of the investor ought to be
17 allocated among predetermined investment vehicles.

1 12. The method of Claim 11 and further comprising the steps of:

2 for a second time following the first time, recalculating the human
3 capital of the investor;

4 for the second time, recommending an allocation of the assets of the
5 financial worth of the investor between the first and second investment types such that
6 the asset allocation of the total worth of the investor most closely approaches the
7 stored ratio; and

8 for the second time, using the last said recommendation of allocation
9 of assets to determine how assets in the investment portfolio of the investor ought to
10 be allocated among predetermined investment vehicles.

1 13. The method of Claim 12, and further comprising the steps of adjusting
2 and re-storing the stored ratio between the first time and the second time.

1 14. The method of Claim 11, wherein the human capital is determined as a
2 function of the investor's age.

1 15. The method of Claim 14, wherein the human capital is additionally
2 determined as a function of the investor's mortality, income and savings rate.

1 16. The method of Claim 11, and further comprising the steps of:
2 using the human capital as calculated for the investor using a currently
3 extant savings rate and retirement age, calculating a case for a probable replacement
4 retirement income;

5 recalculating additional cases of human capital and probable
6 replacement retirement income for the investor by varying the savings rate from the
7 extant savings rate;

8 displaying the results of the calculated cases to an investor;

9 accepting the selection by the investor of one of the calculated cases:
10 and
11 allocating assets of the portfolio of the investor using the human
12 capital calculated for the selected case.

1 17. The method of Claim 16, wherein said step of recalculating additional
2 cases is performed by varying the retirement age as well as the savings rate.

1 18. The method of Claim 10, and further comprising the steps of:
2 using the human capital as calculated for the investor using a currently
3 extant savings rate and first assumed retirement age, calculating a case for a probable
4 retirement income;

5 recalculating additional cases of human capital and probable
6 replacement retirement income for the investor by varying the retirement age from the
7 first assumed retirement age;

8 displaying the results of the calculated cases to the investor;
9 accepting the selection by the investor of one of the calculated cases;
10 and

11 allocating assets of the portfolio of the investor using the human
12 capital calculated for the selected case.

1 19. The method of claim 12, and further comprising the steps of:
2 at the first time, selecting for the investor a first portfolio type from a
3 plurality of predetermined portfolio types, the portfolio types being sequentially
4 ranked according to risk, the first portfolio type being selected as a function of the

5 relative amount of first and second investment types present in the recommendation of
6 allocation of assets;

7 at the second time, determining whether the first portfolio type should
8 still be indicated for the investor given the recommendation of allocation of assets at
9 the second time, or whether the investor should be shifted to an adjacent, second
10 portfolio type.

1 20. The method of claim 19, and further comprising the step of:
2 shifting the investor to the second portfolio type only after a
3 predetermined period has elapsed since the first portfolio type was assigned to the
4 investor.

1 21. A method for determining at least one savings rate and retirement age
2 of a plan participant, comprising the steps of:

3 receiving data concerning the current financial wealth of the plan
4 participant;

5 automatically allocating portions of the current financial wealth of the
6 plan participant to one or more asset classes based on the characteristics of
7 investment vehicles making up the financial wealth of the participant;

8 receiving at least one currently extant savings rate and a first assumed
9 retirement age about the participant;

10 using a predetermined automated algorithm, calculating a first case for
11 a probable retirement income using current financial wealth of the participant as
12 assigned to the asset classes, the currently extant savings rate and the first assumed
13 retirement age;

14 calculating additional cases of probable retirement income by varying
15 at least one of the savings rate and the retirement age;
16 permitting the selection by the participant of one of the cases; and
17 making investments in the plan for the investor using the selected
18 savings rate.

1 22. The method of Claim 21, and further comprising the steps of:
2 receiving a currently extant tax-deductible savings rate and a currently
3 extant taxable savings rate used by the participant;
4 calculating the first case for probable retirement income using the
5 currently extant tax-deductible savings rate and the currently extant savings rate;
6 calculating additional cases of probable retirement income by varying
7 the tax-deductible savings rate; and
8 making investments in the plan using the selected tax-deductible
9 savings rate.

1 23. The method of Claim 22, and further comprising the step of calculating
2 additional cases of probable retirement income by varying the taxable savings rate.

1 24. The method of Claim 22, and further comprising the step of calculating
2 additional cases of probable retirement income by varying the retirement age.

1 25. A system for the automated allocation of assets to a portfolio of a
2 benefit plan participant, comprising:

3 an automated benefit plan manager configured to buy and sell shares of
4 a plurality of predetermined investment vehicles of varying risk and return;

5 a database coupled to the benefit plan manager and including a
6 plurality of records each corresponding to a participant plan portfolio, each portfolio
7 containing a distribution of shares in the investment vehicles, the sum of the
8 investment vehicle shares in the portfolios constituting the total assets of a benefit
9 plan; and

10 an automated independent financial advisor coupled to the automated
11 portfolio manager to transmit investment instructions to the portfolio manager, the
12 independent financial advisor automatically and periodically calculating reallocations
13 of the investment vehicles for selected ones of the participant portfolios and directing
14 the automated portfolio manager to accordingly make reallocations in the selected
15 ones of the participant portfolios.

1 26. The system of Claim 25, wherein the automated independent financial
2 advisor derives information concerning age, income and savings rate from records of
3 an employer of the plan participants, the independent financial advisor calculating
4 reallocations as a function of age, income and savings rate.

1 27. The system of Claim 25, and further including an investment vehicle
2 table coupled to the independent financial advisor, the investment vehicle table
3 containing, for each of a plurality of portfolio types, a predetermined allocation of
4 assets among a predetermined plurality of investment vehicles, the independent
5 financial advisor recommending, for each participant, one of the portfolio types as a
6 function of the age, income and savings rate of the last said participant.

1 28. The system of Claim 25, and further including a participant interface
2 coupled to the independent investment advisor, the independent investment advisor
3 formulating recommended investment allocations among the predetermined
4 investment vehicles for each participant, each participant being accorded the
5 opportunity to change the recommended investment allocations before the
6 recommended investment allocations are finalized into instructions to the automated
7 benefit plan manager.

1 29. The system of Claim 25, wherein each participant portfolio is
2 constituted by allocatable assets, the automated independent financial advisor
3 receiving data concerning that component of financial wealth of the participant which
4 is not controlled by the portfolio manager (the "nonallocatable assets"), the
5 independent financial advisor attributing proportions of the nonallocatable assets to
6 ones of a plurality of predetermined asset classes differing from each other at least by
7 degree of risk, the independent financial advisor allocating proportions of the
8 allocatable assets to the asset classes such that the sum of the allocatable assets and
9 the nonallocatable assets will most closely approximate a predetermined optimum
10 allocation of the assets among the asset classes.

1 30. A system for allocating assets of each of a plurality of participant
2 portfolios in a benefit plan established on behalf of an employer of the participants,
3 comprising:

4 an automated benefit plan manager configured to buy and sell shares of
5 a plurality of predetermined investment vehicles of varying risk;

6 a database coupled to the automated benefit plan manager and
7 including a plurality of records each representing the assets of a participant portfolio,
8 each portfolio having assets distributed among the predetermined investment vehicles,
9 the sum of the assets of the participant portfolios constituting the assets of the benefit
10 plan; and

11 an automated independent investment advisor coupled to the
12 automated benefit plan manager for transmitting investment instructions to the plan
13 manager, the independent investment advisor, for each participant, calculating a
14 human capital of the participant, the independent investment advisor formulating
15 instructions to the plan manager as to the allocation of assets of the portfolio of the
16 last said participant based on the calculation of human capital.

1 31. The system of Claim 30, wherein the automated independent
2 investment advisor is coupled to a record keeper containing data on the participants,
3 the automated independent investment advisor calculating the human capital of a
4 participant as a function of record keeper data concerning the last said participant.

1 32. The system of Claim 30, wherein the automated independent
2 investment advisor includes a participant interface for receiving from each participant
3 respective participant data, the advisor calculating the human capital as a function of
4 the participant data received from the participant.

1 33. The system of Claim 30, wherein the automated investment advisor
2 includes a participant interface, the advisor presenting a recommended allocation of
3 portfolio assets to each participant over the participant interface and accepting

4 modifications of the allocation of portfolio assets from the participant, the automated
5 investment advisor instructing the plan manager to make an allocation of assets of the
6 portfolio of the participant based on the recommendations of the investment advisor
7 as modified, if at all, by the participant.

1 34. The system of Claim 30, wherein the automated investment advisor
2 calculates a first model portfolio based on the human capital of the participant as
3 calculated using the present participant savings rate and retirement age and a probable
4 replacement retirement income based on the model portfolio, the advisor further
5 calculating a plurality of alternative cases in which the savings rate is varied from the
6 present savings rate, the investment advisor displaying a plurality of the cases to the
7 participant for the participant to select one of the cases.

1 35. The system of Claim 27, wherein the advisor calculates alternative
2 cases by also varying the retirement age.

1 36. The system of Claim 30, wherein the automated investment advisor
2 calculates a first model portfolio based on the human capital of the participant as a
3 function of the present participant savings rate and a first assumed retirement age and
4 a probable replacement retirement income based on the first model portfolio, the
5 advisor further calculating a plurality of alternative cases in which the retirement age
6 is varied from the first assumed retirement age, the investment advisor displaying a
7 plurality of the cases to the participant to select one of the cases.

1 37. A system for allocating assets of a portfolio of a plan participant,
2 comprising:

3 an automated financial advisor and a participant interface coupled to
4 the advisor, the advisor calculating a first case based on a first model portfolio of
5 assets of the participant apportioned among a plurality of asset classes as a function of
6 the financial wealth, at least one savings rate and a first assumed retirement age of the
7 participant, the financial advisor finding a probable retirement income based on the
8 first case;

9 the financial advisor calculating further cases by varying at least one of
10 a savings rate and a retirement age for the participant, the financial advisor displaying
11 data concerning each of the cases to the participant for his or her selection of one of
12 them; and

13 a plan manager coupled to the financial advisor, the plan manager
14 making investments for the plan based on instructions received from the financial
15 advisor, the instructions formulated by the financial advisor responsive to the
16 selection by the participant of one of the cases as a portfolio of the participant's assets
17 to be managed by the plan manager.

1 38. The system of Claim 37, wherein the financial advisor receives a
2 currently extant tax-deductible savings rate and a currently extant taxable savings rate
3 of the participant, the financial advisor calculating the first case for probable
4 retirement income as a function of the currently extant tax-deductible savings rate and
5 the currently extant taxable savings rate, the financial advisor calculating at least
6 some of the further cases by varying the currently extant tax-deductible savings rate.

1 39. The system of Claim 38, wherein the financial advisor calculates
2 further cases of probable retirement income by varying the taxable savings rate from
3 the currently extant taxable savings rate.

1 40. The system of Claim 37, wherein the financial advisor calculates
2 further cases of probable retirement income by varying retirement age.

1 41. A machine-readable medium on which has been recorded a computer
2 program which, when executed by a processor, performs the following steps:

3 at each of a plurality of spaced-apart times, determining a target
4 percentage allocation of an investor's portfolio among a plurality of predetermined
5 classes of assets which vary from each other in degree of risk; and

6 formulating a recommendation for shifting assets in the portfolio so as
7 to more closely conform to the target percentage allocation.

1 42. The medium of Claim 41, wherein the investor is a natural person and
2 said step of determining uses the age of the investor in determining the target
3 percentage allocation.

1 43. The medium of Claim 41, wherein the processor performs the further
2 steps of:

3 formulating a recommended reallocation of the investor's portfolio to
4 better conform the investor portfolio to a predetermined model portfolio;

5 presenting the recommended reallocation to the investor so as to enable
6 the investor to modify the recommended reallocation; and

7 thereafter formulating an instruction for reallocating assets of the
8 investor's portfolio in accordance with the recommended reallocation as modified by
9 any investor modifications.

1 44. The medium of Claim 41, wherein the investor is a participant in a
2 retirement plan, the processor further performing the steps of:

3 formulating a reallocation of assets in the investor portfolio; and
4 instructing an automated manager of a benefits plan to execute trades
5 in investment vehicles, which plan assets include the investor's portfolio, responsive
6 to instructions from the independent financial advisor and as a function of said step of
7 formulating.

1 45. The medium of Claim 44, wherein the processor further performs the
2 steps of:

3 presenting to the participant a recommended reallocation of assets in
4 the investor portfolio;

5 affording to the investor the opportunity to modify the recommended
6 reallocation; and

7 as incorporating any modification on part of the investor, instructing
8 the manager to reallocate assets of the investor portfolio.

1 46. The medium of Claim 41, wherein the processor further performs the
2 steps of

3 at a first time, automatically choosing for the investor a first one of a
4 plurality of predetermined portfolio types, each portfolio type having a predetermined
5 asset allocation and varying from the other predetermined portfolio types in degree of
6 risk, the portfolio types being sequentially ranked by degree of risk;

7 at a second time following the first time, performing said step of
8 determining to see if the investor should be switched to another portfolio type; and

9 if said step of determining shows that that other portfolio type would
10 be a better fit to the needs of the investor than the currently assigned portfolio type,
11 switching the investor to that other portfolio type.

1 47. The medium of Claim 46, wherein the processor performs said step of
2 switching by switching the investor only to an adjacent one of the portfolio types.

1 48. The medium of Claim 47, wherein said step of switching switches the
2 investor to the adjacent one of the portfolio types having less risk.

1 49. The medium of Claim 47, wherein the processor performs the further
2 step of

3 making no switch to another portfolio type until a predetermined,
4 stored switching interval has elapsed since the last switching of portfolio types for the
5 investor has occurred.

1 50. The medium of Claim 41, wherein the processor performs the further
2 steps of:

3 authorizing an entity to shift assets ("allocatable assets") of the
4 investor according to the rebalancing algorithm;

5 receiving data concerning that component of an investor's present
6 financial wealth which may not be reallocated by the entity ("nonallocatable assets");

7 using the received data, attributing proportions of the nonallocatable
8 assets to ones of the asset classes; and

9 allocating the allocatable assets among the asset classes such that the
10 sum of the allocatable assets and the nonallocatable assets conforms as closely as
11 possible to the target percentage allocation.

1 51. A machine-readable medium on which has been prerecorded a
2 computer program which, when executed by a processor, performs the steps of:

3 for a first time, determining a human capital of an investor;

4 dividing the human capital of the investor into at least first and second
5 investment types according to a predetermined formula, the first and second
6 investment types having different degrees of risk;

7 summing a financial worth of the investor and the human capital to
8 derive a total worth of the investor;

9 making a target allocation of the total worth of the investor between
10 the first and second investment types according to a predetermined, stored ratio;

11 for the first time, recommending an allocation of the assets of the
12 financial worth of the investor between the first and second investment types such that
13 the asset allocation of the total worth of the investor meets or most closely approaches
14 the target allocation; and

15 for the first time, using the last said recommendation of allocation of
16 assets to determine how assets in an investment portfolio of the investor ought to be
17 allocated among predetermined investment vehicles.

1 52. The medium of Claim 51, wherein the processor further performs the
2 steps of:

3 for a second time following the first time, recalculating the human
4 capital of the investor;

5 for the second time, recommending an allocation of the assets of the
6 financial worth of the investor between the first and second investment types such that
7 the asset allocation of the total worth of the investor most closely approaches the
8 stored ratio; and

9 for the second time, using the last said recommendation of allocation
10 of assets to determine how assets in the investment portfolio of the investor ought to
11 be allocated among predetermined investment vehicles.

1 53. The medium of Claim 51, wherein the processor determines the human
2 capital as a function of the investor's age.

1 54. The medium of Claim 53, wherein the processor additionally
2 determines the human capital as a function of the investor's mortality, income and
3 savings rate.

1 55. The medium of Claim 51, wherein the processor further performs the
2 steps of:

3 using the human capital as calculated for the investor using a currently
4 extant savings rate, calculating a case for a probable replacement retirement income;
5 recalculating additional cases of human capital and probable
6 replacement retirement income for the investor by varying the savings rate from the
7 extant savings rate;

8 causing a display coupled to the processor to display the results of the
9 calculated cases to a participant;

10 accepting the selection by the investor of one of the calculated cases;
11 and

12 formulating an allocation of the assets of the portfolio of the investor
13 using the human capital calculated for the selected case.

1 56. The medium of Claim 55, wherein the processor recalculates additional
2 cases of human capital and probable replacement retirement income by varying the
3 retirement age as well as the savings rate.

1 57. The medium of Claim 51, wherein the processor performs the further
2 steps of:

3 using the human capital as calculated for the investor using a currently
4 extant savings rate and a first assumed retirement age, calculating a case for a
5 probable retirement income;

6 recalculating additional cases of human capital and probable
7 replacement retirement income for the investor by varying the retirement age from the
8 first assumed retirement age;

9 displaying the results of the calculated cases to the investor;

10 accepting the selection by the investor of one of the calculated cases;
11 and
12 allocating assets of the portfolio of the investor using the human
13 capital calculated for the selected case.

1 58. The medium of claim 51, wherein the processor performs the further
2 steps of:

3 at the first time, selecting for the investor a first portfolio type from a
4 plurality of predetermined portfolio types, the portfolio types being sequentially
5 ranked according to risk, the first portfolio type being selected as a function of the
6 relative amount of first and second investment types present in the recommendation of
7 allocation of assets; and

8 at the second time, determining whether the first portfolio type should
9 still be indicated for the investor given the recommendation of allocation of assets at
10 the second time, or whether the investor should be shifted to an adjacent, second
11 portfolio type.

1 59. The medium of claim 51, wherein the processor performs the further
2 step of

3 shifting the investor to the second portfolio type only after a
4 predetermined period has elapsed since the first portfolio type was assigned to the
5 investor.

1 60. A machine-readable medium on which has been prerecorded computer
2 program which, when executed by a processor, performs the steps of:

3 receiving data concerning the current financial wealth of the plan
4 participant;

5 automatically allocating portions of the current financial wealth of the
6 plan participant to one or more asset classes based on the characteristics of
7 investment vehicles making up the financial wealth of the participant;

8 receiving at least one currently extant savings rate and a first assumed
9 retirement age about the participant;

10 using a predetermined automated algorithm, calculating a first case for
11 a probable retirement income using current financial wealth of the participant as
12 assigned to the asset classes, the currently extant savings rate and the first assumed
13 retirement age;

14 calculating additional cases of probable retirement income by varying
15 at least one of the savings rate and the retirement age;

16 permitting the selection by the participant of one of the cases; and
17 making investments in the plan for the investor using the selected
18 savings rate.

1 61. The medium of Claim 60, and further comprising the steps of:
2 receiving a currently extant tax-deductible savings rate and a currently
3 extant taxable savings rate used by the participant;
4 calculating the first case for probable retirement income using the
5 currently extant tax-deductible savings rate and the currently extant savings rate;
6 calculating additional cases of probable retirement income by varying
7 the tax-deductible savings rate; and

8 making investments in the plan using the selected tax-deductible
9 savings rate.

1 62. The medium of Claim 61, and further comprising the step of
2 calculating additional cases of probable retirement income by varying the taxable
3 savings rate.

1 63. The medium of Claim 61, and further comprising the step of
2 calculating additional cases of probable retirement income by varying the retirement
3 age.